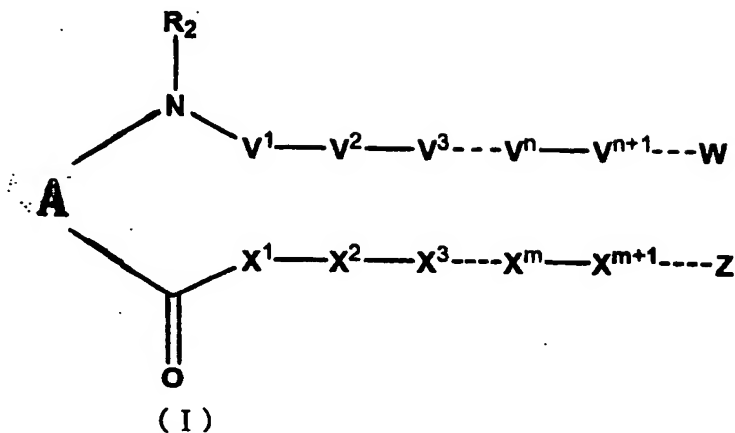


What is claimed is:

1. A ferrocene compound represented by the following general formula (I):

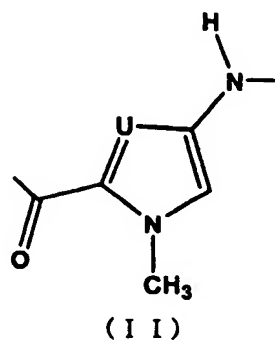
[Chemical Formula 1]



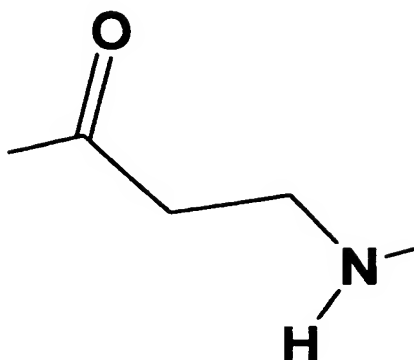
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wherein "A" represents a divalent ferrocene-containing linker or ferrocene-1,1'-yl,  $R_2$  represents a hydrogen atom or alkyl; "n" and "m" represent any natural numbers; and  
 10 "V" and "X" represent the following general formula (II) or (II-1):

[Chemical Formula 2]



[Chemical Formula 3]

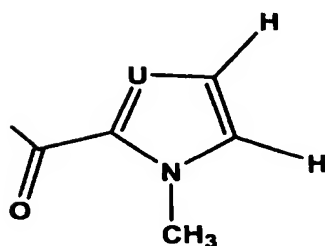


(II-1)

"W" represents the following general formula (III):

[Chemical Formula 4]

5

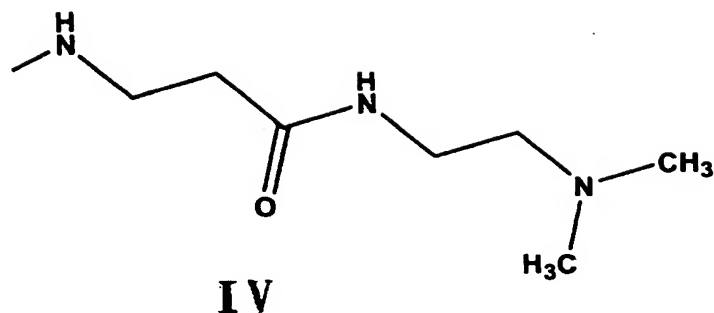


III

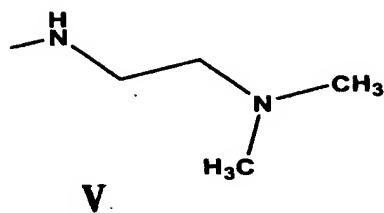
wherein "U" in the general formulae (II) and (III) represents a nitrogen atom, methine or hydroxymethine; and "Z" represents the following general formulae (IV) or (V):

10

[Chemical Formula 5]



[Chemical Formula 6]

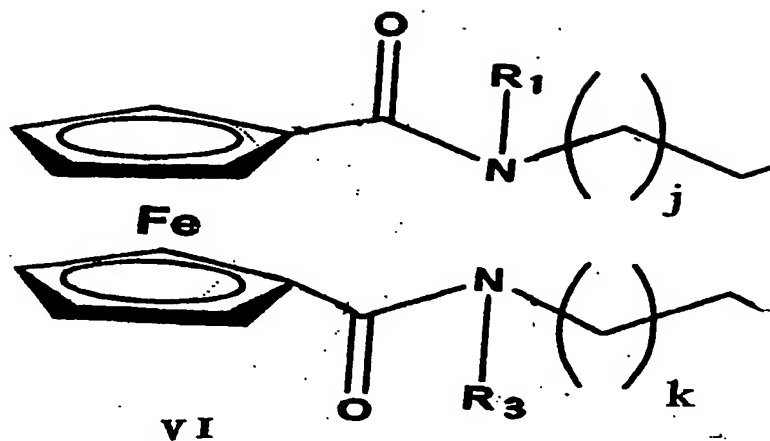


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and both ends of each of  $V^n$  and  $X^m$  in the general formula (I) form a  $(-CO-NH-)$  bond except that a bond on the side of the ferrocene-containing linker or ferrocene-1,1'-yl of  $V1$  is  $(-CO-NR_2-)$ .

- 10 2. The ferrocene compound according to Claim 1 wherein "n" and "m" are natural numbers in the range of 3 - 20.
3. The ferrocene compound according to Claim 1 or 2 wherein the number of "n" is smaller by one than that of "m."
4. The ferrocene compound according to any one of Claims
- 15 1 -3 wherein the ferrocene-containing linker is represented by the following general formula (VI):

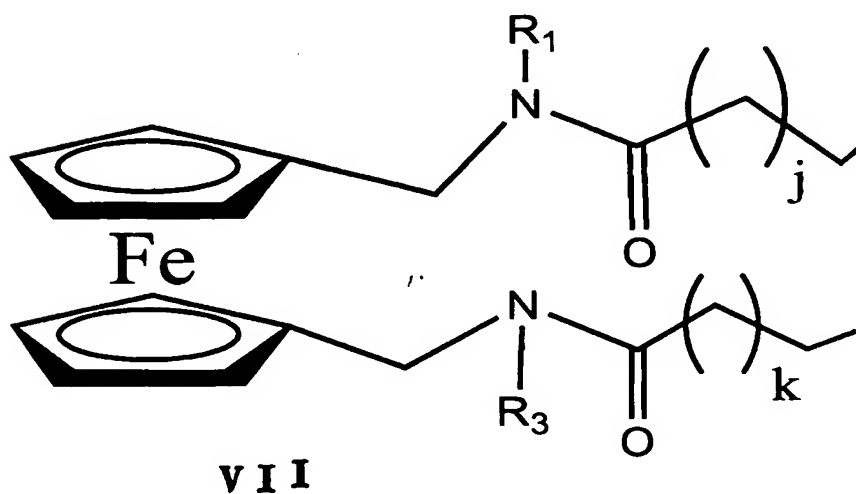
[Chemical Formula 7]



wherein  $R_1$  and  $R_3$  represent a hydrogen atom or alkyl; "j" and "k" represent the same or different integer of from 0 to 5.

5. The ferrocene compound according to any one of Claims 1-3 represented by the following general formula (VII):

[Chemical Formula 8]



wherein  $R_1$  and  $R_3$  represent a hydrogen atom or alkyl; "j" and "k" represent the same or different integer of from 0 to 5.

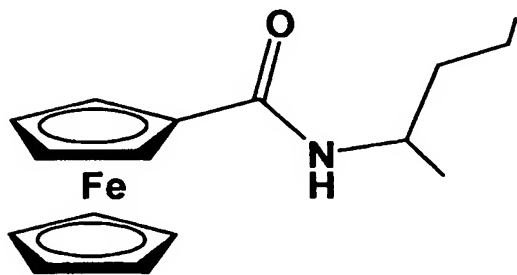
6. The ferrocene compound according to any one of Claims 1 to 5 wherein "j" and "k" are 1.

7. The ferrocene compound according to any one of Claims 1 to 6 wherein  $R_1$  and  $R_3$  represent a hydrogen atom.

8. The ferrocene compound according to any one of Claims 1 to 3 wherein the ferrocene-containing linker is

represented by the following general formula (X):

[Chemical Formula 9]

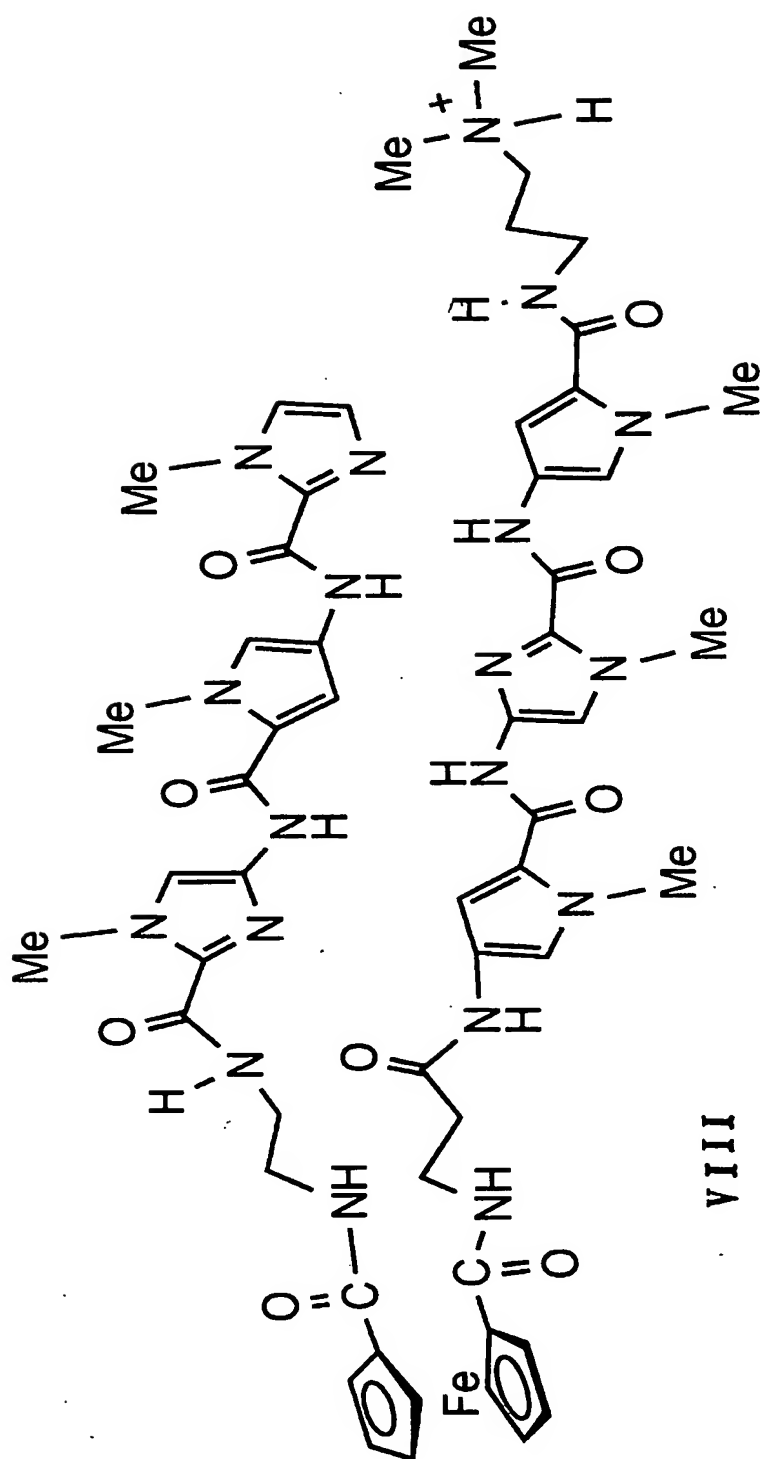


X

9. The ferrocene compound according to any one of Claims 1 to 8 wherein  $R_1$ ,  $R_2$  and  $R_3$  represent alkyl having one or several carbon atoms.

10. The ferrocene compound represented by the following formula (VIII):

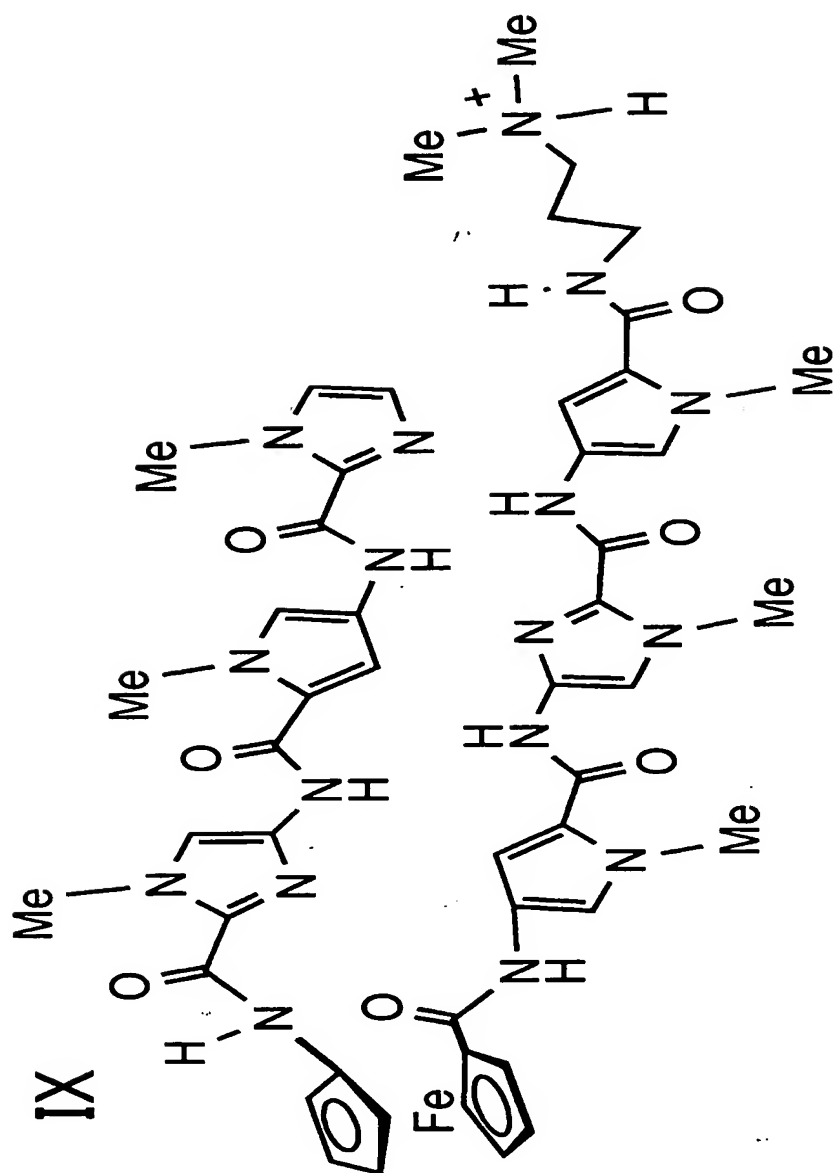
[Chemical Formula 10]



VIII

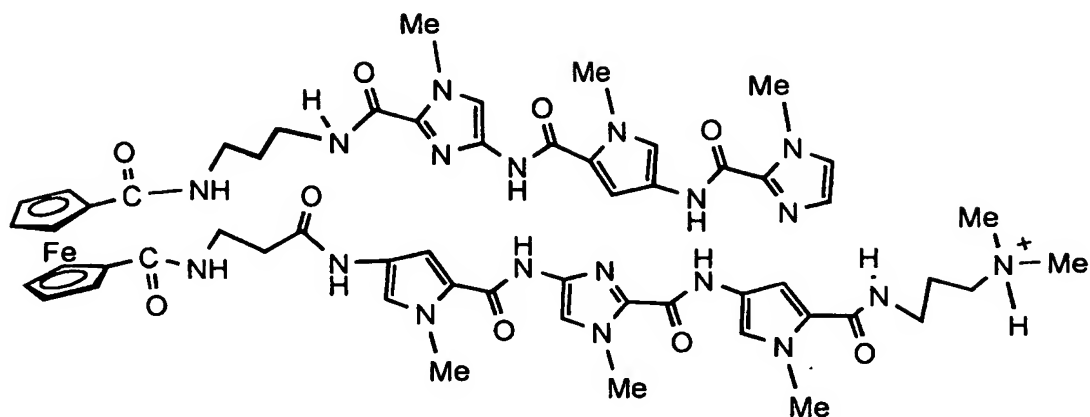
11. The ferrocene compound represented by the following formula (IX):

[Chemical Formula 11]



12. The ferrocene compound represented by the following formula (1b):

[Chemical Formula 12]

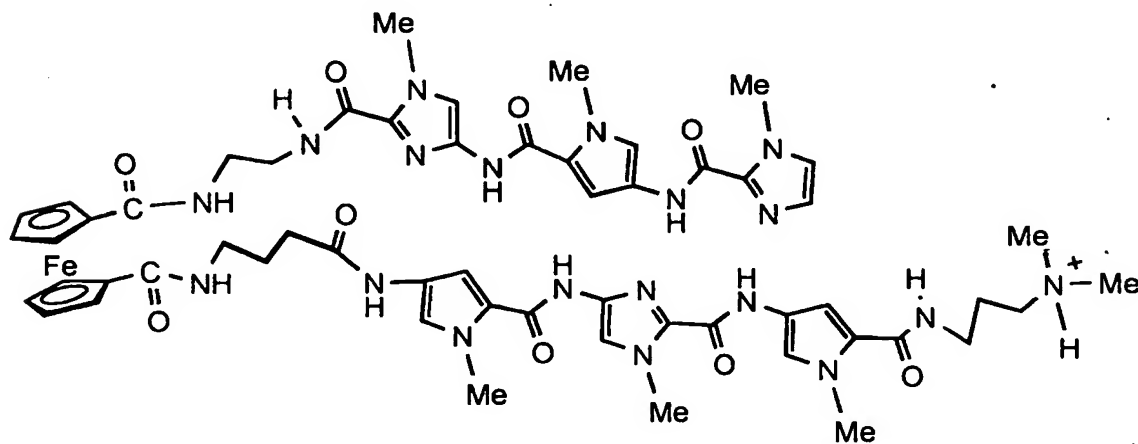


(1b)

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13. The ferrocene compound represented by the following formula (1c):

[Chemical Formula 13]

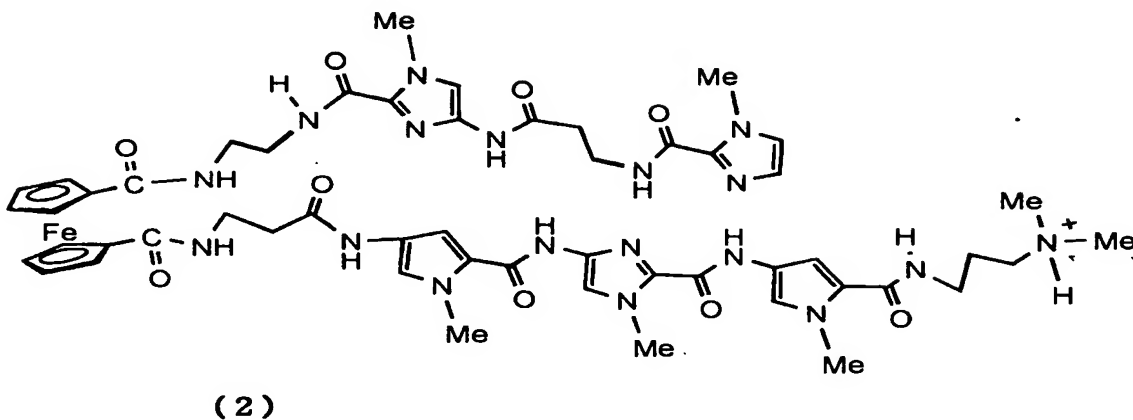


(1c)



14. The ferrocene compound represented by the following formula (2):

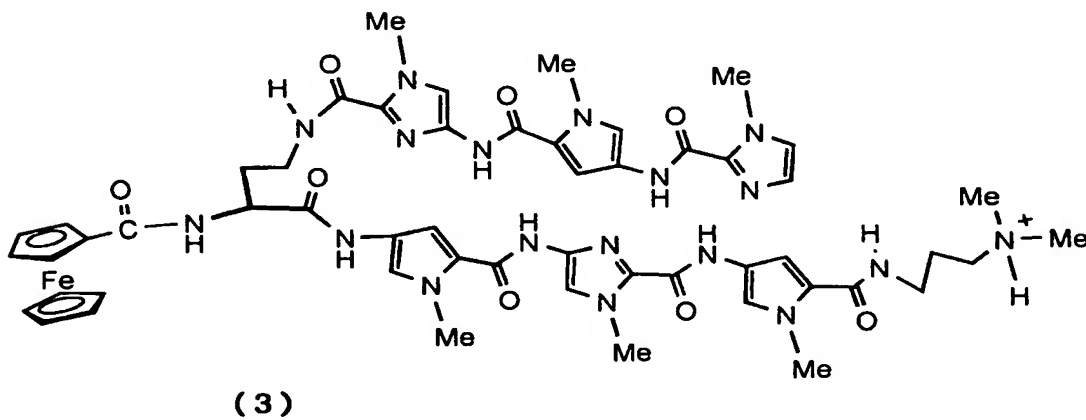
[Chemical Formula 14]



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15. The ferrocene compound represented by the following formula (3):

[Chemical Formula 15]



16. A method for the production of the ferrocene compound according to any one of Claims 1 to 15, comprising a condensation step with the use of ferrocene methyl dicarboxylate, aminoferrocene methyl carboxylate or ferrocene carboxylic acid as a starting material.
17. A ligand consisting of the ferrocene compound according to any one of Claims 1 to 15 for sequence-specific detection of double-stranded nucleic acid molecules.
18. A method for the electrochemical detection of double-stranded nucleic acid molecules with the use of a compound that can sequence-specifically bind to the double-stranded nucleic acid molecules.
19. A method for electrochemical detection of double-stranded nucleic acid molecules according to Claim 18 with the use of the ligand according to Claim 17.
20. The method according to Claim 16 which uses the ligand according to Claim 17 wherein each pair of "V" and "X" located in the general formula (I) at a position corresponding to G/C and A/T (U) base pairs in subject double-stranded nucleic acid molecules is composed of imidazole derivative/pyrrole derivative and pyrrole derivative/pyrrole derivative, respectively.
21. A method for electrochemical detection according to any one of Claims 18 to 20 wherein the double-stranded nucleic acid molecules are formed on solid phase.

22. A method for electrochemical detection according to Claim 21, which uses DNA microarray.

23. A method for the detection of single nucleotide polymorphism (SNP) by the method for electrochemical detection according to any one of Claims 18 to 22.

24. An apparatus or device for the electrochemical detection with the use of the ligand for sequence-specific detection of double-stranded nucleic acid according to Claim 17.

25. The apparatus or device for the electrochemical detection according to Claim 24, which is DNA microarray.